

# State of California—Health and Human Services Agency California Department of Public Health



Director & State Health Officer

September 23, 2013 System No. 1090016

Mr. Dan Pierce, Manager, Fresno County Waterworks Dist. No. 18 P.O. Box 92 Friant, CA 93626

Dear Mr. Pierce:

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SEP 2 6 2013

RE: Review of Report of Water Reclamation for Proposed Friant Ranch and Beck Property Development and Water System under the Fresno County Waterworks

Dist. No. 18 (December 2012)

We have reviewed the Report of Water Reclamation (not deemed to be a full Title 22 Engineering Report) for the proposed project for the construction of a new wastewater treatment facility and recycled water use. Attached is the outline for the preparation of the requested report. The project report describes phased construction as Phases 1 and 2. Each phase will provide 0.40 million gallons per day (mgd) of capacity. Phase 2 will be constructed at such time demand warrants expansion. The proposed Phase 1 plant will consist of an advanced aerated biological treatment system that is fully enclosed in a building. The process will include a Membrane Bioreactor (that also provides denitrification treatment) and disinfection using ultraviolet radiation. The waste activated sludge will undergo dewatering and transported off-site for disposal. The amount of water generated for recycled water use is estimated to be 448 acre-feet per year based on water balance. A 46 acre unlined storage pond consisting of a converted gravel pit will be used for equalization storage.

The Fresno County Waterworks District No. 18 (WWD#18) is the public entity that will own and operate the proposed wastewater treatment facility (WWTF) and collection system. Two other entities are proposed as the users of the tertiary recycled water produced by the WWTF.

Our comments on the submitted report regarding the additional information necessary in the Title 22 Engineering Report are as follows:

1. Rules and Regulations: The report needs to make provision for the administration of the management of the protective measures and action by the producer and users of the necessary procedures, restrictions and other requirements imposed by the Regional Board permits. There must be a Site Supervisor who is responsible for compliance with the rules and regulations developed. The job duties would be the maintenance of piping and infrastructure records, inspection of the tertiary recycled irrigation operations and plan review/field inspection of any plumbing changes to prevent cross-connections with the Fresno County WWD#18 community water system and raw San Joaquin River source. These duties would include maintenance and routine inspection for cross-connection control measures, signage, monitoring of aerosol drift, use area containment, future domestic well drilled, etc. The measures should also include proper notification of outside contractors who are employed by the water system or the recycled water users for construction work on the systems.

The Site Supervisor is responsible to prevent cross-connections during the installation, operation and maintenance of the recycled water user's pipelines and equipment and coordinate with the water system during any installation of water mains or services. It is recommended that the designated Site Supervisor complete a course(s) specific to recycled water use.

Two different user entities (SWD Investments and Friant Ranch Homeowner's Association) are described so there must be enforceable codified requirements for the operational standards and conformance with permit conditions under the oversight of the Site Supervisor.

The dual distribution systems must be designed using practices recommended in AWWA Manual M-24 <u>Planning for the Distribution of Reclaimed Water</u>. Also, applicable water sewer-separation standards contained in the California Waterworks Standards under Section 64572 must be specified.

- 2. <u>Section 4.1.6, 4.1.9 and 4.3.6</u>: The report identifies several existing wells used for water quality analysis. We recommend these be illustrated on a location map relative to the use areas for management of the use area and to document that they are at least 100 feet of any domestic well (Section 60310 of Title 22). It should show wells on the use area and the surrounding properties with its use (monitoring, agricultural supply or domestic use). There must be a 50 feet radius buffer zone to any domestic supply well. Only one domestic well on private residence is mentioned. Measures must be instituted to monitor for future installed wells on neighboring properties.
- 3. <u>Section 4.1.7 and 4.3.7</u>: The signage should be located at any entrances (pedestrian or roadways). The signage should also be along sidewalk entrances to any buildings from parking area.

4. The recycled water uses consist of two types of uses: landscape irrigation and agricultural crop irrigation (specified as alfalfa). The designated three recycled water use areas are as described below.

Use Area	Landscape Irrigation	Ag Crop Irrigation of Alfalfa
Beck	20 acres (property perimeter)	32 acres
Friant Ranch	85 acres (five subgroups)	None

- 5. Beck Use Areas (Section 4): SWD Investments is described as the user for the recycled water on 52 contiguous acres. The property contains the proposed Wastewater Treatment Facility (WWTF) and Recycled Water Holding Pond and 32 acres of irrigated alfalfa. The report indicates that no potable water is supplied to the use premises. The report should identify how potable water is supplied for the occupants of the WWTF and other facilities. The alfalfa use area is proposed to use an overhead sprinkler system and is currently irrigated with surface water from the nearby San Joaquin River. As recycled water becomes available the river water will be replaced by the recycled water source for irrigation. Any short fall will be made up by the property's water right to the river. The supplemental source will be the river. The report indicates no backflow prevention is required (section 2.6.1), but backflow protection must be provided to prevent tertiary water being discharged into the San Joaquin River. Figure 4 indicates a configuration that would indicate a possible cross-connection. There should be written agreements that require that the user to comply with the permit requirements for measure.
- 6. Friant Ranch Use Areas (Section 4): The Friant Ranch Homeowner's Association is designated as the user of the recycled water in its use areas. In section 4.3.2, the recycled water is described as being pumped to Friant Ranch and stored in a separate Irrigation Water Storage Tank. The tank will be filled with recycled water from the storage pond at the Beck property and a pipeline from the Fresno County WWD#18 water system using air gaps. The constructed facilities must be routinely inspected by the Site Supervisor to ensure compliance with standards for backflow protection of the river and Fresno Count WWD#18 water system and any piping changes reviewed and approved by the Site Supervisor. The 85 acre Friant Ranch proposed use areas consist of five use subgroups located throughout the development: median and parkway (14.9 acres), parks and parkways (20 acres); recreation center (7 acres), community commercial (13.1 acres), and graded slope (30 acres).

It is essential that the initial cross-connection control survey and shutdown test be carefully conducted at all future recycled water use sites to ensure that no cross-connections exist. A written report documenting the results of the initial cross-connection inspection and shutdown tests shall be maintained on file and a summary of the findings submitted to the Department within two weeks of activation of any new recycled water use site. All employees who are routinely in the field, such as water meter readers, should report incidents of unauthorized daytime irrigation activity and area runoff to the City's water reclamation inspector. If it is determined that the irrigation is unauthorized, the inspector should notify the Site Supervisor and the Regional Board by telephone within 24 hours, submit a written report within 15 days describing the corrective actions taken.

- 7. Figure 6: Figure 6 and the report must include a discussion of the construction standards for installation of main and transmission lines. Figure 6 does not provide the location of the Fresno County WWD#18 water mains in relation to the recycled distribution system. There needs to be a detail to describe the operation of the 'distribution fill main'. In areas with dual distribution system, routine shutdown testing for cross-connections between the two distribution systems will be required.
- 8. The method for all irrigation applications of the recycled water is described as spray irrigation with a storage pond provided for periods when there is no irrigation required. It will be used to contain any runoff from the use areas. The report should specify the conditions required to protect public health as specified in Section 60310 of Title 22 as they apply to the project proposal. The use areas have runoff containment measures outlined in Section 4.1.5.

# 9. MBR Treatment Plant

- A. The Report does not provide hydraulic detention times and loading rates for two aeration basins.
- B. The Report provides very limited information about the proposed MBR membrane system. At a minimum, the following detailed information about the MBR system design should be included in the Report:
  - 1. Schematic of the MBR filtration system.
  - 2. Description of the proposed membrane; manufacturer and model number,
  - 3. Design parameters for the membrane system such as maximum flux rate, backwash practices, expected MBR influent and effluent turbidities, etc. Any limitations suggested by the membrane manufacturer shall be addressed in the design.
  - 4. Monitoring and control, including the number, location, and function of monitoring equipment.
- C. The report provides very limited information about the proposed UV disinfection system. At a minimum, the following detailed information about the UV system design should be provided per *Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse*, *August 2012* by AWWA/NWRI (NWRI Guidelines):
  - 1. Schematic of the UV disinfection system.
  - 2. Reactor and reactor train layout and dimensions, inlet and outlet

- configuration, reactor train velocity range, and any devices used to modify the flow within the pipes or channels.
- 3. Description of the UV reactor; manufacturer and type of UV lamps (including arc length); ballast; modules; banks; and electrical facilities.
- 4. Quartz sleeve configuration and characteristics (e.g., sleeve material, sleeve diameter, sleeve thickness, and spacing).
- 5. Monitoring and control, including the number, location, and function of monitoring equipment.
- 6. The water level relative to the UV lamps and level control device.
- 7. The anticipated number of reactor trains under low- and peak-flow conditions and the corresponding inlet and outlet velocity ranges.
- 8. Details of the bioassay experiments and the procedure used to derive the operational UV dose.
- 9. Applicable seismic design codes.
- 10. A certificate shall be provided by the manufacturer to verify that the equipment supplied with respect to lamp spacing, type of lamp, quartz sleeve characteristics, and ballasts (as required above) is identical to the technology used in the validation testing. Please refer to the October 2012 Treatment Technology Report for Recycled Water for the list of disinfection technologies accepted by the Department, which can be found at:

http://www.cdph.ca.gov/certlic/drinkingwater/Documents/DWdocuments/AlternativeTreatmentTechnologyReportforRecycledWater-October2012.pdf

- D. The equipment validation report shall be appended along with a description of how the information contained within the validation report was used in the layout, scale-up, and design of the proposed UV disinfection system. If no validation testing has been previously performed for the proposed UV system, the testing protocol shall be first submitted to the Department for the review and approval; and the validation testing shall be conducted in accordance with the approved protocol.
- E. The Title 22 Engineering Report must also include at least a draft version of an operations plan for UV system operation and maintenance. This plan should include a detailed description of the control system, alarm functions, records, and reports. The plan should outline procedures and the frequency for sleeve cleaning, lamp replacement, maintenance of system components, and the frequency for calibrating the monitoring equipment. The UV quartz sleeve cleaning frequency shall be fixed and not based on presence of coliform organisms in the treated effluent. The location, access, and quantity of a backup supply of lamps and other critical components should be identified.

- F. The Report shall describe a field commissioning test for UV disinfection system to be conducted before initiating the production of reclaimed water. The commissioning test should consist of verification and testing of electrical components, inlet/outlet velocity distribution (if full scale reactors use more lamps than the reactors used for validation testing, water level, flow split between reactor trains, controls and alarms, and instrument calibration. Field commissioning shall also include *Reactor Spot-Check Commissioning Tests*, as detailed and described in the 2012 NWRI UV guidelines.
- G. On-site commissioning must be performed by an independent third-party, experienced in UV disinfection of recycled water and qualified to perform the study. "Spot-check" tests should be conducted by a PE in California who is qualified and experienced in this testing. "Spot-check" MS2 bioassay tests should be conducted at peak flow rate and minimum UVT. Prior to conducting the testing, a protocol must be submitted and approved by CDPH (in conformance with the 2012 NWRI UV guidance).
- H. The UV system must be operated with a built-in automatic reliability feature that must be triggered when the system is operating below the target UV dose. If the measured UV dose goes below the minimum UV dose, the UV reactor in question must alarm and startup the next available UV lamp bank or reactor.
- I. Please note that any manuals addressing the details of operation and maintenance of essential WWTP components shall be developed and submitted to the Department for the review and approval prior to receiving permission to operate the upgraded WWTP.

# 10. Plant Reliability Features

- A. To protect public health, both low and high-priority alarms are required for the operation of a UV disinfection system. The set points should allow for adequate response time based on the importance of the alarm and subsequent consequences. The settings for the UV related alarms shall be specified in the Engineering Report.
- B. NWRI UV Guidelines provide the list of required high and low-priority alarms for UV disinfection system. The following alarms are not addressed in the Report:

# C. High – Priority Alarms:

- 1. Low low UV intensity when the intensity probe reading drops below a predetermined set point.
- 2. Low low UV Transmittance when the influent water reuse UV transmittance drops below a predetermined setpoint.
- 3. Low low operational UV dose when the operational UV dose drops below the predetermined set point.

- 4. High water level when the water level in the UV reactor train exceeds a predetermined water level (for UV disinfection systems with free water surface).
- 5. Ground Fault Interrupter (GFI).

# D. Low - Priority Alarms:

- 1. Low UV Transmittance when the influent water reuse UV transmittance drops below a predetermined setpoint.
- 2. Low operational UV dose when the operational UV dose drops below the predetermined set point.
- 3. Based on the information provided in the report, it seems that the proposed UV disinfection system only consists of one reactor. However, per AWWA Guidelines, at a minimum, two reactors must be simulationeously operated in any on-line train. Standby UV equipment must also be provided by either having one standby reactor per reactor train or one standby reactor train.

# 11. Monitoring and Reporting

The discussion of regulatory monitoring and reporting provided in the report is incomplete. All details of monitoring and reporting program required by the California Recycled Water Criteria and NWRI UV Guidelines should address the following information:

# A. Monitoring and Analysis

- 1. The effluent shall be monitored at least once daily for total coliform bacteria. The samples shall be taken from the disinfected effluent and shall be analyzed by an approved laboratory.
- 2. Filter effluent turbidity analyses should be conducted continuously using a continuous monitoring and recording turbidimeter.
- 3. Compliance with the turbidity standard of not exceeding 0.2 NTU more than 5 percent of the time over a 24-hour period should be determined using the levels of recorded turbidity taken at intervals of no more than 1.2-hours over a 24-hour period.
- 4. Should the continuous turbidity meter and/or recorder fail, grab sampling at a minimum frequency of 1.2-hours may be substituted for a period of up to 24-hours. Continuous turbidity monitoring should also be provided prior to filtration to ensure adequate process control.
- 5. UV intensity, UV transmittance, operational UV dose, and flowrate through the UV disinfection system must be monitored continuously:
- 6. Monitoring of the following UV disinfection system components shall be provided:

- i. Status of each UV reactor, on/off.
- ii. Status of each UV lamp, on/off.
- iii. UV intensity measured by at least one probe per reactor.
- iv. Cumulative number of reactor on/off cycles.
- v. Cumulative UV disinfection system power consumption.
- vi. Reactor power set point (for systems with variable power input to lamps).
- vii. Liquid level in the UV disinfection reactor trains (for all UV disinfection systems with free water surfaces and for installations where UV lamps can be exposed to air).
- viii. GFI.

# B. Minimum Reporting to Regional Board

- 1. Results of daily total coliform bacteria monitoring, running 7-day median calculation, maximum daily coliform reading, results of minimum daily UV operational dose, minimum daily filter effluent UV transmittance, 95 percentile effluent turbidity (24 hour period), and daily maximum turbidity reading.
- 2. Failure of UV disinfection equipment, effluent total coliform bacteria MPN greater than 240/100 mL, turbidity greater than 0.5 NTU, UV operational dose lower than 80 mJ/cm², and UV transmittance at 254 nm lower than 65% shall initiate a plant shut down, diversion of inadequately treated water, and notification of the Regional Board within 24 hours.
  - a. Verification and Calibration of Monitoring Equipment used throughout the treatment process is not addressed in the Report. Where continuous monitoring analysis and recording equipment are used, the method and frequency of calibration must be stated.
  - b. The Report does not address the monitoring system used to determine and record the operational UV dose, including equipment and procedures used to monitor and record flow, UV intensity, and UV transmittance.

If you have any questions, please telephone Arnold Hatai at (559) 447-3135.

Sincerely,

Carl L. Carlucci, P.E.

Supervising Sanitary Engineer

Central California Section

Southern California Drinking Water Field

Operations Branch

Attachment

CLC/ah-13 RW Ltr Friant Ranch\_FCWWD18 revised

cc: Mr. Dennis Bacopulos, Operations Mgr, (Friant Ranch, L.P., 7110 N. Fresno St., Fresno, CA 93720)

Brian Bernados & Randy Barnard, CDPH-San Diego

✓Scott Hatton, Regional Board-Fresno

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# STATE OF CALIFORNIA-HEALTH AND HUMAN SERVICES AGENCY

DEPARTMENT OF HEALTH SERVICES
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT
DRINKING WATER PROGRAM
RECYCLED WATER UNIT



# GUIDELINES FOR THE PREPARATION OF AN ENGINEERING REPORT FOR THE PRODUCTION, DISTRIBUTION AND USE OF RECYCLED WATER

March 2001 (Replaces September 1997 Version)

# 1.0 INTRODUCTION

The current State of California Water Recycling Criteria (adopted in December 2000) require the submission of an engineering report to the California Regional Water Quality Control Board (RWQCB) and the Department of Health Services (DHS) before recycled water projects are implemented. These reports must also be amended prior to any modification to existing projects. The purpose of an engineering report is to describe the manner by which a project will comply with the Water Recycling Criteria. The Water Recycling Criteria are contained in Sections 60301 through 60355, inclusive, of the California Code of Regulations, Title 22. The Criteria prescribe:

- \* Recycled water quality and wastewater treatment requirements for the various types of allowed uses,
- \* Use area requirements pertaining to the actual location of use of the recycled water (including dual plumbed facilities), and
- \* Reliability features required in the treatment facilities to ensure safe performance.

Section 60323 of the Water Recycling Criteria specifies that the engineering report be prepared by a properly qualified engineer, registered in California and experienced in the field of wastewater treatment.

Recycled water projects vary in complexity. Therefore, reports will vary in content, and the detail presented will depend on the scope of the proposed project and the number and nature of the agencies involved in the production, distribution, and use of the recycled water. The report should contain sufficient information

to assure the regulatory agencies that the degree and reliability of treatment is commensurate with the requirements for the proposed use, and that the distribution and use of the recycled water will not create a health hazard or nuisance.

The intent of these guidelines is to provide a framework to assist in developing a comprehensive report which addresses all necessary elements of a proposed or modified project. Such a report is necessary to allow for the required regulatory review and approval of a recycled water project.

References which may assist in addressing various project elements include:

- State of California Water Recycling Criteria (December 2000)
- State of California Regulations Relating to Cross-Connections
- California Waterworks Standards
- California Water Code
- Guidelines for the Distribution of Non-potable Water, (California-Nevada Section-AWWA, 1992)
- Guidelines For The On-Site Retrofit of Facilities Using Disinfected Tertiary Recycled Water (California-Nevada Section-AWWA, 1997)
- Manual of Cross-Connection Control/Procedures and Practices (DOHS)
- Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse (NWRI/AWWARF, December 2000)

# 2.0 RECYCLED WATER PROJECT

The following sections discuss the type of information that should be presented and described in the engineering report. Some sections may be applicable only to certain types of uses.

#### 2.1 General

The report shall identify all agencies or entities that will be involved in the design, treatment, distribution, construction, operation and maintenance of the recycled facilities, including a description of any legal arrangements outlining authorities and responsibilities between the

agencies with respect to treatment, distribution and use of recycled water. In areas where more than one agency/entity is involved in the reuse project, a description of arrangements for coordinating all reuse-related activities (e.g. line construction/repairs) shall be provided. An organizational chart may be useful.

# 2.2 Rules and Regulations

The procedures, restrictions, and other requirements that will be imposed by the distributor and/or user should be described. In multiple projects covered under a Master Permit issued by the Regional Boards where the reuse oversight responsibility is delegated to the distributor and/or user, the requirements and restrictions should be codified into a set of enforceable rules and regulations. The rules and regulations should include a compliance program to be used to protect the public health and prevent cross connections. Describe in the report the adoption of enforceable rules and regulations that cover all of the design and construction, operation and maintenance of the distribution systems and use areas, as well as use area control measures. Provide a description of the organization of the agency or agencies who has the authority to implement regulations, and enforce the rules and responsibilities of pertinent personnel involved in the reuse program. Reference to any ordinances, rules of service, contractual arrangements, etc. should be provided. program.

#### 2.3 Producer - Distributor - User

The producer is the public or private entity that will treat and/or distribute the recycled water used in the project. Where more than one entity is involved in the treatment or distribution of the recycled water, the roles and responsibilities of each entity (i.e. producer, distributor, user) should be described.

# 2.4 Raw Wastewater

Describe the chemical quality, including ranges with median and 95th percentile values;

Describe the source of the wastewater to be used and the proportion and types of industrial waste, and

Describe all source control programs.

#### 2.5 Treatment Processes

Provide a schematic of the treatment train;

Describe the treatment processes including loading rates and contact times;

All filtration design criteria should be provided (filtration and backwash rates, filter depth and media specifications, etc.). The expected turbidities of the filter influent (prior to the addition of chemicals) and the filter effluent should be stated;

State the chemicals that will be used, the method of mixing, the degree of mixing, the point of application, and the dosages. Also describe the chemical storage and handling facilities, and

Describe the operation and maintenance manuals available.

# 2.6 Plant Reliability Features

The plant reliability features proposed to comply with Sections 60333 - 60355 of the Water Recycling Criteria should be described in detail. The discussion of each reliability feature should state under what conditions it will be actuated. When alarms are used to indicate system failure, the report should state where the alarm will be received, how the location is staffed, and who will be notified. The report should also state the hours that the plant will be staffed.

# 2.7 Supplemental Water Supply

The report should describe all supplemental water supplies. The description should include:

- \* Purpose
- \* Source
- \* Quality
- \* Quantity available
- \* Cross-connection control and backflow prevention measures

## 2.8 Monitoring and Reporting

The report should describe the planned monitoring and reporting program, including all monitoring required by the Water Recycling Criteria, and include the frequency and location of sampling. Where continuous analysis and recording equipment is used, the method and frequency of calibration

should be stated. All analyses shall be performed by a laboratory approved by the State Department of Health Services.

## 2.9 Contingency Plan

Section 60323 (c) of the Water Recycling Criteria requires that the engineering report contain a contingency plan designed to prevent inadequately treated wastewater from being delivered to the user. The contingency plan should include:

- \* A list of conditions which would require an immediate diversion to take place;
- \* A description of the diversion procedures;
- \* A description of the diversion area including capacity, holding time and return capabilities;
- \* A description of plans for activation of supplemental supplies (if applicable);
- \* A plan for the disposal or treatment of any inadequately treated effluent;
- \* A description of fail safe features in the event of a power failure, and

A plan (including methods) for notifying the recycled water user(s), the regional board, the state and local health departments, and other agencies as appropriate, of any treatment failures that could result in the delivery of inadequately treated recycled water to the use area.

#### 3.0 TRANSMISSION AND DISTRIBUTION SYSTEMS

Maps and/or plans showing the location of the transmission facilities and the distribution system layout should be provided. The plans should include the ownership and location of all potable water lines, recycled water lines and sewer lines within the recycled water service area and use area(s).

#### 4.0 USE AREAS

The description of each use area should include:

- \* The type of land uses;
- \* The specific type of reuse proposed;

- \* The party(s) responsible for the distribution and use of the recycled water at the site;
- \* Identification of other governmental entities which may have regulatory jurisdiction over the re-use site such as the US Department of Agriculture, State Department of Health Services, Food and Drug Branch, the State Department of Health Services, Licensing and Certification Section, etc. These agencies should also be provided with a copy of the Title 22 Engineering Report for review and comment.
- \* Use area containment measures;
- \* A map showing:
  - -Specific areas of use
  - -Areas of public access
  - -Surrounding land uses
  - -The location and construction details of wells in or within 1000 feet of the use area
  - -Location and type of signage
- \* The degree of potential access by employees or the public;
- \* For use areas where both potable and recycled water lines exist, a description of the cross-connection control procedures which will be used.

In addition to the general information described above, the following should be provided for the following specific proposed uses:

# 4.1 Irrigation

- -Detailed plans showing all piping networks within the use area including recycled, potable, sewage and others as applicable.
- -Description of what will be irrigated (e.g. landscape, specific food crop, etc.);
- -Method of irrigation (e.g. spray, flood, or drip);
- -The location of domestic water supply facilities in or adjacent to the use area;

- -Site containment measures;
- -Measures to be taken to minimize ponding;
- -The direction of drainage and a description of the area to which the drainage will flow;
- -A map and/or description of how the setback distances of Section 60310 will be maintained;
- -Protection measures of drinking water fountains and designated outdoor eating areas, if applicable;
- -Location and wording of public warning signs,
- -The proposed irrigation schedule (if public access is included), and
- -Measures to be taken to exclude or minimize public contact.

# 4.2 Impoundments

- -The type of use or activity to be allowed on the impoundment;
- -Description of the degree of public access;
- -The conditions under which the impoundment can be expected to overflow and the expected frequency, and
- -The direction of drainage and a description of the area to which the drainage will flow.

#### 4.3 Cooling

- -Type of cooling system (e.g. cooling tower, spray, condenser, etc.);
- -Type of biocide to be used, if applicable;
- -Type of drift eliminator to be used, if applicable, and
- -Potential for employee or public exposure, and mitigative measures to be employed.

#### 4.4 Groundwater Recharge

An assessment of potential impacts the proposal will have on underlying groundwater aquifers. The appropriate information

shall be determined through consultation with the Department on a case by case basis.

## 4.5 Dual Plumbed Use Areas

In accordance with Sections 60313 through 60316 of the Water Recycling Criteria.

# 4.6 Other Industrial Uses

The appropriate information shall be determined on a case by case basis.

## 4.7 Use Area Design

The report should discuss how domestic water distribution system shall be protected from the recycled water in accordance with the Regulations Relating to Cross-Connections and the California Waterworks Standards, and how the facilities will be designed to minimize the chance of recycled water leaving the designated use area. Any proposed deviation from the Water Recycling Criteria and necessity therefore, should be discussed in the report.

# 4.8 Use Area Inspections and Monitoring

The report should describe the use area inspection program. It should identify the locations at the use area where problems are most likely to occur (e.g. ponding, runoff, overspray, cross-connections, etc.) and the personnel in charge of the monitoring and reporting of use area problems.

# 4.9 Employee Training

The report should describe the training which use area employees will receive to ensure compliance with the Recycled Water Criteria, and identify the entity that will provide the training and its' frequency. The report should also identify any written manuals of practice to be made available to employees.

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